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PEABODY JOURNAL OF EDUCATION

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PEABODY JOURNAL
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VOLUME 11 JULY, 1933 NUMBER 1

THE HIGH SCHOOL SCIENCE LIBRARY FOR 1932-33

HANOR A. WEBB
(Editor of *Current Science*)
George Peabody College for Teachers

For the ninth time I have been privileged to examine the newest books in the fields of science on the junior and senior high school level, and list them—as before[1]—in an arrangement that offers certain services to those fortunate librarians who still possess a budget.

Suggestions for first purchase are embraced in the price groups, for the $10 list includes a diversified selection of titles, the list prices of which add to within a few cents of this presumably minimum budget; the $25 list are additional titles to the amount of fifteen dollars, which, added to the first list, meet a twenty-five-dollar budget; the $50 list is an addition to the other two, causing all to add up to the fifty-dollar budget that verges on generosity; the $100, $200, and Over $200 lists each embrace those below, and reach the really liberal proportions in which publishers supply the fields of science on the high school level.

Diversification throughout science fields is one feature of the price groups both high and low, and this should serve as a guide for judicious balance.

[1]The preceding lists in this series are:
"The High School Science Library—1910-1924," this Journal, Vol. 3, No. 2, 85-119 (September, 1925). Bound reprint, 25 cents.
"The High School Science Library for 1925" (1925-26), this Journal, Vol. 3, No. 6, 340-347 (May, 1926). Bound reprint, 10 cents.
"The High School Science Library for 1926" (1926-27), this Journal, Vol. 4, No. 6, 351-358 (May, 1927). Bound reprint, 10 cents.
"The High School Science Library for 1928" (1927-28), this Journal, Vol. 5, No. 5, 278-290 (March, 1928). Bound reprint, 10 cents.
"The High School Science Library for 1928-29," this Journal, Vol. 7, No. 1, 1-16 (July, 1929). Bound reprint, 10 cents.
"The High School Science Library for 1929-30," this Journal, Vol. 8, No. 1, 35-48 (July, 1930). Reprints exhausted.
"The High School Science Library for 1930-31," this Journal, Vol. 9, No. 1, 29-40 (July, 1931). Bound reprint, 10 cents.
"The High School Science Library for 1931-32," this Journal, Vol. 10, No. 1, 20-31 (July, 1932). Bound reprint, 12 cents.

Classification according to certain practical relationship, used in previous lists, enables the offerings in a particular field to be scanned.

A brief annotation is hopefully offered for what it may be worth as a super-condensed "review" of the volume.

The criteria for recommendation for early purchase has been presented in connection with previous lists. A story of science that is true, written in a style that will appeal to high school students, published not too expensively, in a field that is not already full, is almost sure to be one of the titles in a lower price group.

PUBLISHERS AND THEIR ADDRESSES

In the list that follows, publishers are indicated briefly; full names and addresses are here given:

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Minton: Minton, Balch & Co., 2 W. 45th St., New York, N. Y.
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Oxford: Oxford University Press, 114 Fifth Ave., New York, N. Y.
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Saunders: W. B. Saunders Co., W. Washington Sq., Philadelphia, Pa.
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A STUDY OF SOME FACTORS RELATED TO LEADERSHIP IN HIGH SCHOOL

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Various studies have been made of those individuals who are in the position of leadership in some special group. Subjects ranging in age from infancy to adulthood have been studied. Problems involving age and leadership; scholarship and leadership; physical development and leadership; and, general leadership ability have been studied.

One of the earliest attempts to analyze the psychological and educational factors involved in the production of leadership ability was made by Terman.[1] A more recent study of this by Terman[2] revealed that according to the judgment of teachers, children rating above 120 I. Q. become leaders more often than choice. Furthermore, he found that these children, even though they weren't leaders, were usually liked by other children.

In a rather recent study, Partridge[3] found that there were notable differences found in the ability of a group of Boy Scouts, ranging from twelve to seventeen, to inspire confidence in others. Furthermore, he states: "There is a surprisingly high correlation (.767) between the leaders chosen by boys and the scores on the Army Alpha Test. Even when the factor of age is held constant, the score on the Army Alpha Test seems to be the most important predictive instrument of popularity as a leader." These findings are to a degree in harmony with earlier findings of Hollingworth.[4] From her studies she concludes:

"In observing who are the popular leaders in various groups of children, it appears to the present writer that the intelligence of the leader is related in a fairly predictable manner, other traits being favorable, to the intelligence of the led. . . . That is, the leader is likely to be more intelligent, *but not too much more intelligent,* than the average of the group led."

Again she says:

"Facility in leading people is due, therefore, to total personality, mental and physical, of which *g* is an element."[5]

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[1]Terman, Lewis M. "A Preliminary Study of the Psychology and Pedagogy of Leadership," *Ped. Sem.*, 1904, 11, 413-451.

[2]Terman, Lewis M. *Genetic Studies of Genius*, Stanford University Press, 1925, Volume I.

[3]Partridge, E. De Alton. "Ability in Leadership among Adolescent Boys," *The School Review*, 1932, 40, 526-531.

[4]Hollingworth, Leta S. *Gifted Children*, Macmillan Company, 1926, p. 131.

[5]Hollingworth, Leta S. "Special Gifts and Special Deficiencies," *Handbook of Child Psychology*, Clark Univ. Press, 1931, p. 638.

Another recent study by Wetzel[6] in the Trenton Senior High School of New Jersey, shows that there is a direct relation between success in school work and leadership. Also, from this study he says: "He has strong character traits and is conscious of the fact."

Cowley[7] made a fairly recent study relating to general leadership ability. In his study, twenty-eight psychological tests were given to three different groups of leaders and followers. These groups were made up of army officers and privates, criminal leaders and followers, and student leaders and followers from the University of Chicago. He concludes from his findings that there is a difference between leaders and followers of the same group. However, he did not find any proof for the idea that there is a general leadership trait common to all three groups studied.

Buhler[8] found from a study of infant behavior that, "The child who dominates by intimidating, overcoming, or attacking his companions, and the child who dominates by inspiring, encouraging, or leading them, can be distinguished from eight to ten months on."

Adelberg[9] in his study of three leading children among twenty kindergarten children in a private kindergarten in Vienna, noted the one boy who was an outstanding leader to make worthy suggestions, and was able to plan and organize activities. His suggestions, according to Adelberg, were in harmony with the group interests.

Thus Buhler[10] says: "Even at this early age, the leader is characterized by the same qualities which we shall also find to be decisive for leadership in later years, initiative, organizing ability, and *conformity* with the substantial tendencies of the group.

Winkler-Hermaden[11] found rather definite characteristics present in the personalities of sixty leaders of the German and Austrian youth movements. They list three types of leaders, namely, the *sovereign*, the *pedagogue*, and the *apostle*. The sovereign type is thought of as self-centered or ego-centric in nature, and appeals to the early adolescent child (ages twelve to fourteen years). The pedagogue is more social minded, and thus works unselfishly for promoting the interests and care of the group. This type appeals to the

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[6]Wetzel, William A. "Characteristics of Pupil Leaders," *The School Review*, 1932, 40, 532-534.

[7]Cowley, W. H. "Three Distinctions in the Study of Leaders," *J. of Abn. and Soc. Psychol.*, 1928-29, 23, 144-151.

[8]Buhler, Charlotte. "The Social Behavior of the Child," *Handbook of Child Psychology*, 1931, p. 400.

[9]Adelberg, H. Fuhrertum in Kindergarten, *Zsch. F. Pad. Psychol.*, 1930, 31, 144-156. (See Murchison, Carl, *Handbook of Child Psychology*, p. 400-401.)

[10]Buhler, Charlotte, *Op. cit.*, p. 401.

[11]Winkler-Hermaden, V. "Zur Psychologie des Jugendfuhrers," *Quell u. Stud. z. Zugendk.*, 1927, No. 6. (See Murchison, Carl, *Handbook of Child Psychology*, 1931, pp. 412-413.)

group comprising the ages fourteen to sixteen. The apostle type is more idealistic in nature, and has definite aims set forth towards which he attempts to lead the group. This type represents a true type of leadership and is present in the later period of adolescence.

Caldwell and Wellman[12] studied leaders from the junior high school of the Lincoln School of Teachers College, Columbia University. Sixty-three boys and fifty girls chosen by their classmates as representatives were studied for seven characteristics—chronological age, mental age, intelligence quotient, scholarship, extroversion, height and physical achievement. They found that the same characteristics were not necessarily present in different types of leaders. For example, leaders in athletics were more characterized by physical achievement. Scholarship was positively related to leadership in all the types. There was a tendency for leaders to be extrovertive in nature, and to have a chronological age close to the average of the class or slightly less.

Kimball Young,[13] generalizing from a number of studies, concludes that "leadership is not the innate unfolding of particular traits without reference to time or place. It is always related to situations in which various qualities of leadership show themselves."

The subjects for the present study consist of the senior classes for the year 1931-32 of the two white high schools of Raleigh, North Carolina—Hugh Morson and Needham Broughton. There were 126 pupils in the senior class at Hugh Morson, and 134 at Needham Broughton.

After excluding 11 postgraduate students, 14 from the Methodist Orphanage, 17 who had not been in the high school the previous year, and 7 for incomplete records, there remained 104 from the Hugh Morson and 97 from the Needham Broughton group. This study centers around these groups of 104 and 97 seniors, respectively.

The data gathered on these subjects consist of the following:

1. School average (average grade for the past three years).
2. Age (months as of September, 1931).
3. Height (inches).
4. Weight.
5. Father's occupational status.
6. Number of children in the family.
7. Position in family (birth order in relation to brothers and sisters).
8. Leadership score.
9. Admiration score.

[12]Caldwell, Otis W., and Wellman, Beth. "Characteristics of School Leaders," *J. Ed. Res.*, 1926, 14, 1-15.

[13]Young, Kimball. *Social Psychology*, F. S. Crofts and Company, 1930, p. 380.

All of these data save the occupational rating of the father, leadership score, and admiration score are explanatory in themselves. The father's occupational rating was secured by means of the Barr Scale.[14] A number of approximations were necessary in the rating of certain occupations not presented on the scale. These were made by combining the judgments of six advanced students in sociology and four in psychology. The leadership score was obtained from the use of a weighted scale devised by Lynn[15] in an earlier study of high school leaders.

This scale was checked for its validity against a scale devised and used by the high school teachers of these groups. A correlation of .91 $\pm$ .01 was found between the scores on the two scales. The admiration score was obtained from weighting the responses given in the statement: "List in order the five individuals of this class, boys or girls, that you admire most." Any questions raised concerning the meaning of admiration were clarified by the experimenter. The subject listed first by a particular pupil was given a weighted value of 5, the one listed second was given a value of 4, and so on.

Before proceeding further into the treatment of the data gathered, it is well to consider the differences existing between the two schools. Hugh Morson is the old high school of Raleigh, and proceeds along a much more conservative line of procedure than does the Needham Broughton school. The Needham Broughton High School has been experimenting during the past several years with the "activity unit" idea. In this school, the socialized recitation, individual differences in interests, extra-curricular activities, club activities, and similar work somewhat apart from the more formal procedure is practiced. In the Hugh Morson school, as already stated, a more formal procedure is followed. However, the writer is not inferring any superiority or inferiority of one school over the other. Table I presents the averages for the two schools on the various characteristics studied.

An analysis of the individual scores reveals that the highest score at each place was obtained by a boy. Furthermore, the highest score made by any group of seniors was that made by the Hugh Morson girls in the upper quartile on the leadership score. This was true despite the fact that the lowest average score for the four groups shown in Table I was for the Hugh Morson girls. In Hugh Morson High School, a small number of girls become leaders, and thus the great majority are in the main followers. From Table I it is to be noted that there is a slight superiority in grades, and in the father's occupational rating in the Needham Broughton group. The greatest differ-

[14]Terman, Lewis M. *Genetic Studies of Genius*, Stanford University Press, 1925, Volume I, p. 67.

[15]Lynn, Fred H. "The Source of High School Leaders in the High School of Harvey County, Kan." *Master's Thesis*, Univ. of Kan., 1924.

TABLE I

AVERAGE SCORES OBTAINED BY THE SENIORS OF THE HUGH MORSON AND NEEDHAM BROUGHTON HIGH SCHOOLS[16]

	HUGH MORSON			NEEDHAM BROUGHTON		
	Boys	Girls	Total	Boys	Girls	Total
School average	76.43	79.50	77.99	78.78	79.58	79.25
Age (months)	206.04	204.50	205.26	202.92	203.50	203.26
Height (inches)	69.11	63.26	66.13	68.44	63.80	65.75
Weight (pounds)	139.27	112.50	125.62	138.00	118.73	126.87
Father's occupational rating	11.78	11.34	11.56	13.37	12.38	12.80
Number in family	3.82	3.73	3.78	3.63	3.46	3.54
Position in family	2.80	2.73	2.77	2.00	1.96	1.98
Leadership score	3.60	3.28	3.44	5.95	4.44	5.08

ence existing between the two schools lies in the leadership score, while the average age, height and weight differences are too small to be considered significant.

A correlation of the different variables was made for each of the schools. These correlations are presented in Table II. Probably the most significant finding from this table is the preponderance of small correlations. The highest correlation is between the number in the family and the position of the particular pupil in the family. Here we note that in the case of the Hugh Morson pupils, there is a correlation of .84 $\pm$ .02. This is to be expected, and there is no special significance to be attached to this relationship, since for example, a fourth child could not come from a family of one, two or three, etc. The correlations of .75 $\pm$ .03 and .66 $\pm$ .04 between height and weight are also to be expected. However, the fact that both boys and girls are included in these correlations would without doubt, lower the correlations between any physical measurements studied. In so far as this study is concerned, the correlations of the different variables with the leadership score are the significant ones. The high correlations in both schools between the admiration score and the leadership scores are especially indicative of the social or temperamental factor being important in high school leadership. This is in harmony with the findings of Winkler-Hermaden.[17] The one other

[16]The number in each of the groups was as follows: H. M. (girls) 53; H. M. (boys) 51; N. B. (girls) 56; N. B. (boys) 41.

[17]Winkler-Hermaden, *Op. cit.*

TABLE II

INTERCORRELATIONS OF THE VARIOUS TRAITS OF THE HIGH SCHOOL SENIORS STUDIED

		Age	Height	Weight	Father's Occupation	Number in Family	Position in Family	Leadership Score	Admiration Score
School Average	H. M.	—.49 ± .05	—.32 ± .06	—.39 ± .06	.35 ± .06	—.15 ± .06	—.09 ± .07	.30 ± .06	.25 ± .06
	N. B.	—.51 ± .05	—.06 ± .07	—.22 ± .06	.16 ± .06	—.31 ± .06	—.25 ± .06	.36 ± .06	.28 ± .06
Age (Months)	H. M.		.16 ± .06	.11 ± .07	—.21 ± .06	.22 ± .06	.14 ± .07	—.12 ± .07	—.11 ± .07
	N. B.		.08 ± .07	.26 ± .06	—.25 ± .06	.06 ± .06	.15 ± .07	—.25 ± .06	—.15 ± .06
Height	H. M.			.75 ± .03	—.02 ± .07	.02 ± .07	.03 ± .07	—.02 ± .07	—.11 ± .07
	N. B.			.66 ± .04	.29 ± .06	—.20 ± .06	.04 ± .07	—.13 ± .07	.01 ± .07
Weight	H. M.				.02 ± .07	.16 ± .06	.12 ± .07	—.02 ± .07	.08 ± .07
	N. B.				—.01 ± .07	—.06 ± .07	—.16 ± .06	—.04 ± .07	—.10 ± .07
Father's Occupation	H. M.					—.09 ± .07	—.03 ± .07	.13 ± .07	.09 ± .07
	N. B.					—.06 ± .07	—.07 ± .07	.24 ± .06	.17 ± .06
Number in Family	H. M.						.84 ± .02	.11 ± .07	—.13 ± .07
	N. B.						.55 ± .04	.14 ± .07	—.09 ± .07
Position in Family	H. M.							.09 ± .07	—.18 ± .06
	N. B.							.09 ± .07	—.07 ± .07
Leadership Score	H. M.								.82 ± .02
	N. B.								.58 ± .04

correlation that is high enough to be considered reliable at both schools is that between scholarship and leadership scores. Since scholarship is directly related to intelligence, one would probably conclude from this that intelligence is operative in the development of leadership in high school. Certainly this would be the case in those club activities requiring insight, achievement in scholastic work, and a careful organization of one's mental powers. Hollingworth's[18] observations and Terman's[19] findings bear this relation out.

Two other correlations that probably show a relationship existing are those between the age and leadership score, and between the father's occupational rating and leadership score. It appears from the low negative correlations between age and leadership score that the youngest students stand the best chance of becoming leaders. Although the average ages for the leaders and non-leaders in the Hugh Morson High School were 203.8 and 205.72, respectively, while the average for the Needham Broughton were 198.43 and 205.95. The greater difference between the leaders and non-leaders of the Needham Broughton seniors is in harmony with the higher negative correlation between age and leadership for this group as is shown in Table II. This is in harmony with the findings of Caldwell and Wellman.[20]

From these data presented along with a further analysis of the mean, median, and quartile scores of the various groups, the following conclusions are drawn:

1. The correlations of .30 $\pm$ .06 and .36 $\pm$ .06 between scholarship and leadership score reveal a definite relationship here existing.

2. The negative correlations supplemented by the average for the various groups show that the leaders tend to come from the younger members of the class. Although, the low correlations indicate that one cannot state a very close relationship here.

3. The correlations between height and leadership score are negligible. The same applies also to weight as it relates to leadership score.

4. There is a positive correlation between the father's occupational rating and leadership score. Although this correlation was positive in both cases and is supplemented by a small, yet consistent, difference between the various groups of leaders and non-leaders, one cannot state that a significant relationship here exists.

5. The highest correlation obtained with the leadership score was that with the admiration score. Thus, one might conclude that leaders have certain qualities which make them objects of admiration. These qualities are not, apparently, closely related to the different variables studied in this investigation.

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[18] Hollingworth, Leta S., *Op. cit.*
[19] Terman, Lewis, *Op. cit.*
[20] Caldwell, Otis W., and Wellman, Beth, *Op. cit.*

THE ABILITY OF COLLEGE STUDENTS TO PREDICT THEIR GRADES

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To what extent can college students evaluate the quality of work which they are doing? One way to secure an answer to this question is to have students predict their grades.

The purpose of this report is to give a brief summary of the results of a study which was conducted in the Eastern Kentucky State Teachers College to determine the ability of college students to predict their grades. The procedure was briefly as follows: One week before the close of the first semester of the school year 1932-33, all of the students of the institution were requested to list on a prepared form the courses for which they were enrolled, the names of their instructors, and the grades which they expected to make on the semester's work. The students were assured that these data would not be made available to instructors. Of the 771 students who were enrolled in the institution, 701 or 90.9 per cent furnished complete data. These students predicted 3,875 grades, representing a total of 10,970 semester hours of credit.

There are many factors that may influence the ability of students to correctly predict their grades. Among these are: the number of examinations given during the term, familiarity with the instructor's method of grading, the method of instruction in the course, the number of students enrolled in the class, the department of instruction, the level of college achievement, and the credit value of the course. It would be impossible in a limited study to determine accurately the influence of each of these factors. In this investigation an attempt was made to answer the following questions:

(1) What is the relation between predicted grades and assigned grades for each department of instruction and for the institution as a whole?

(2) What is the relation between predicted grades and assigned grades for students at the various levels of college achievement?

(3) What is the relation between predicted grades and assigned grades for courses of different credit value?

(4) To what extent do predicted grades vary from assigned grades?

(5) Is the quality of achievement, as indicated by the mark which is finally assigned, a factor in the prediction of grades?

(6) What is the relation between class size and ability to predict grades?

What is the relation between predicted grades and assigned grades for each department of instruction and for the institution as a whole? This relation, expressed in terms of coefficients of correlation, is given in Table I. Coefficients of correlation are given for the departments of instruction and for the institution as a whole.

TABLE I

RELATION BETWEEN PREDICTED GRADES AND ASSIGNED GRADES, EXPRESSED IN TERMS OF COEFFICIENTS OF CORRELATION, FOR THE VARIOUS DEPARTMENTS OF INSTRUCTION

Department of Instruction	Coefficient of Correlation	P. E.$_r$
Agriculture	.67	± .028
Art	.51	± .032
Biology	.70	± .030
Chemistry	.84	± .024
Commerce and Economics	.73	± .024
Education	.65	± .016
English	.59	± .019
Foreign Language	.74	± .086
Geography and Geology	.70	± .027
Government	.69	± .044
Health and Physical Education	.68	± .029
History	.71	± .016
Home Economics	.60	± .110
Industrial Arts	.25	± .040
Library Science	.47	± .074
Mathematics	.66	± .020
Music	.47	± .041
Physics	.86	± .029
All Departments	.65	± .007

It will be noted from the above table that the coefficients of correlation between predicted grades and assigned grades range from .25 in the department of industrial arts to .86 in the department of physics, and for the institution as a whole the coefficient of correlation is .65. The coefficient of correlation between predicted grades and assigned grades is greater than .50 for all departments except industrial arts, music, and library science. The coefficients of correlation between predicted and assigned grades in several of the departments, namely, geography and geology, biology, history, commerce and economics, foreign language, chemistry, and physics are .70 or above.

What is the relation between predicted and assigned grades for students at

the various levels of college achievement? This relation, as measured by coefficients of correlation, is shown below:

Class	Coefficient of Correlation	P. E.$_r$
Freshman	.60	± .010
Sophomore	.75	± .009
Junior	.67	± .016
Senior	.64	± .006

It will be noted from the above statement that the coefficients of correlation between predicted grades and assigned grades range from .60 for Freshmen to .75 for Sophomores. These coefficients of correlation are all significant. Freshmen students seem to be less able to predict their grades than members of other classes. However, there is no constant relation between the level of achievement and ability to predict grades.

What is the relation between predicted grades and assigned grades for courses of different credit value? In order to answer this question the courses were classified into three groups, as follows: courses giving less than three semester hours credit, courses giving three semester hours credit, and courses giving more than three semester hours credit. This relation is shown by the following coefficients of correlation:

Semester Hours Credit Given	Coefficient of Correlation	P. E.$_r$
Less than three	.59	± .015
Three	.65	± .008
More than three	.75	± .018

It will be noted from the above data that the coefficient of correlation increases with the number of semester hours credit given in a course. The range is from .59 in courses giving less than three semester hours credit to .75 in courses giving more than three semester hours credit. Apparently, students are more capable of predicting their grades in courses that meet several times per week than they are in courses that meet only a few times per week.

To what extent do predicted grades vary from assigned grades? The answer to this question is found in Table II.

TABLE II

SHOWING THE EXTENT TO WHICH PREDICTED GRADES VARY FROM ASSIGNED GRADES ACCORDING TO DEPARTMENTS OF INSTRUCTION

Department	Number Grades Predicted	Per Cent Over Predicted*				Per Cent Correctly Predicted	Per Cent Under Predicted*			
		4 Letters	3 Letters	2 Letters	1 Letter		1 Letter	2 Letters	3 Letters	4 Letters
Agriculture	191			3.7	30.4	55.0	10.5	.5		
Art	259		.8	3.5	37.5	49.0	8.5	.8		
Biology	143			2.8	30.8	56.6	9.8			
Chemistry	72				23.6	69.4	6.9			
Commerce and Economics	194		1.5	3.1	19.6	64.4	10.3	.5	.5	
Education	637		.2	3.5	24.2	64.8	7.4			
English	608		.5	11.3	26.3	54.3	7.4	.2		
Foreign Language	52			1.9	26.9	61.5	7.7	1.9		
Geography and Geology	182			2.2	23.6	62.6	11.0	.5		
Government	71			4.2	25.4	63.4	5.6	1.4		
Health and Physical Education	173			3.5	28.3	56.6	11.6			
History	502		.4	3.0	23.9	63.5	9.0	.2		
Home Economics	68			1.5	29.4	52.9	16.2			
Industrial Arts	44			6.8	25.0	52.3	15.9			
Library Science	56		3.6	3.6	35.7	48.2	8.9			
Mathematics	406			3.2	25.1	61.6	9.6	.5		
Music	176			7.4	36.9	43.7	11.4	.6		
Physics	41				17.1	70.7	12.2			
All Departments	3,875		.3	4.6	26.8	58.9	9.1	.3	.03	

*To over predict a grade one letter means that the predicted grade was one letter higher than the assigned grade; to under predict a grade one letter means that the predicted grade was one letter lower than the assigned grade; similarly for two letters, three letters, and four letters.

It will be noted from the data given in Table II that the percentage of grades correctly predicted ranged from 43.7 in the department of music to 70.7 in the department of physics. Of the 3,875 grades, 58.9 per cent were predicted correctly, 35.9 per cent of the predicted grades varied one letter from the assigned grade, 4.9 per cent varied two letters, and .33 per cent varied three letters. It is also shown by information given in Table II that 31.7 per cent of the grades was over predicted one or more letters, and that 9.43 per cent was under predicted one or more letters.

Is the quality of achievement, as indicated by the mark which is finally assigned, a factor in the prediction of grades? Do students who do work of a high quality predict a greater per cent of their grades correctly than do students who do a poor quality of work? The data given in Table III tend to answer these questions.

TABLE III

RELATION BETWEEN QUALITY OF ACHIEVEMENT (AS MEASURED BY THE ASSIGNED GRADES A, B, C, D, AND F) AND PREDICTED GRADES

Assigned Grade	Per Cent Grades Over Predicted				Per Cent Correctly Predicted	Per Cent Grades Under Predicted			
	4 Letters	3 Letters	2 Letters	1 Letter		1 Letter	2 Letters	3 Letters	4 Letters
A					50.2	46.4	3.1	.3	
B				10.0	70.5	19.2	.2		
C			.9	26.2	70.7	2.1	.1		
D		.2	10.2	74.8	14.3	.4			
F		5.7	53.1	26.8	14.4				
Total		.3	4.6	26.8	58.9	9.1	.3	.03	

It will be noted from Table III that students who received a mark of "A" predicted 50.2 per cent of their grades correctly; students who received a mark of "B" predicted 70.5 per cent of their grades correctly; students who received a mark of "C" predicted 70.7 per cent of their grades correctly; students who received a grade of "D" predicted 14.3 per cent of their grades correctly; and students who received a grade of "F" predicted 14.4 per cent of their grades correctly. These facts tend to indicate that the students who do work of a poor quality are less able to predict their grades correctly than are those students who do work of average or higher quality. Students who receive high marks tend to under predict their grades, while students who receive low marks tend to over predict theirs.

What is the relation between class size and ability to predict grades? Coefficients of correlation between predicted grades and assigned grades were computed for classes having enrollments of less than ten students, ten to nineteen students, twenty to twenty-nine students, thirty to thirty-nine students, and forty or more students. These coefficients of correlation are given below:

Number of Students Enrolled in Class	Coefficient of Correlation	P. E.r
Less than 10	.54	± .029
10-19	.67	± .018
20-29	.73	± .013
30-39	.65	± .015
40 and above	.61	± .011

These coefficients of correlation range from .54 for classes having enrollments of fewer than ten students to .73 for classes having enrollments of twenty to thirty students. The relation between predicted grades and assigned grades is higher for the classes having enrollments of twenty to thirty students than it is for classes having enrollments of thirty or more students, or for classes having enrollments of fewer than twenty students.

Summary

The findings of this study may be summarized briefly as follows:

(1) The coefficients of correlation between predicted grades and assigned grades ranged from .25 in the department of industrial arts to .86 in the department of physics, and for the institution as a whole the coefficient of correlation was .65. The coefficients of correlation were greater than .50 for all departments except industrial arts, music, and library science. In several departments, namely, geography and geology, biology, history, commerce and economics, foreign language, chemistry, and physics, the coefficients of correlation were .70 or above.

(2) Freshmen students seem to be less able to predict their grades than members of other classes. However, the relation between predicted grades and assigned grades is not indicated definitely by the level of achievement.

(3) The coefficient of correlation increases with the number of semester hours credit given in a course. The range is from .59 in courses giving less than three semester hours credit to .75 in courses giving more than three semester hours credit.

(4) The percentage of grades correctly predicted ranged from 43.7 in the department of music to 70.7 in the department of physics, and for the institution as a whole 58.9 per cent of the grades was predicted correctly. It will be noted that 35.9 per cent of the predicted grades varied one letter from the assigned grades, that 4.9 per cent varied two letters, and that only a fraction of one per cent varied as much as three letters.

(5) The facts presented by the study tend to indicate that the students who do work of a poor quality are less able to predict their grades correctly than are those students who do work of average or higher quality. Students who receive high marks tend to under predict their grades, while students who receive low marks tend to over predict theirs.

(6) The relation between predicted grades and assigned grades is higher for the classes having enrollments of twenty to thirty students than it is for classes having enrollments of thirty or more students, or for classes having enrollments of fewer than twenty students.

AUDITORY ACUITY AND SUCCESS IN COLLEGE COURSES

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Otological examination of the men summoned by the draft boards during the War and of thousands of children in the public schools appears to warrant the assumption that ten million persons have impaired hearing and that three million of these persons are children in the public schools.[1] The studies of low auditory acuities among public school children have, however, given great differences with regard to the proportion of those afflicted, the range being from about one per cent to fifty per cent.[2] The wide discrepancy is the result of unscientific means of testing auditory acuity, not to an abnormal prevalence of hearing disabilities in certain localities. The methods generally employed to detect auditory disabilities are two: the watch-tick test and the whisper test. By their very nature these two methods are too highly subjective to be adequately standardized and to be scientifically acceptable. The Commission on Education of the American Federation of Organizations for the Hard of Hearing obtained the aid of the Bell Telephone research workers in devising an objective means of testing for hearing defects.[3] The apparatus known as the 4 — A Audiometer was worked out as a scientific means of obtaining quantitative data accurate enough for all practical purposes in studying hearing disabilities. This apparatus gives a figure indicating the loss of hearing in "sensory units" which range from 30, for seriously impaired acuity, to — 3, for excellent hearing ability.

The literature on the relation between auditory impairment and school success is based principally upon the watch-tick test or the whisper test method. Few studies are as yet available on the relation between school marks and hearing measured by the audiometer. On the subjective tests it was found that the proportion of children with hearing defects "in the schools of Camden, New Jersey, were 50 per cent greater among the retarded than among those who were up to grade."[4] Mallory states that auditory impairments are "the third most serious cause of retardation, being exceeded only by obstructions to natural breathing and tooth defects."[5] With the use of the audiometer in

[1] F. T. Hill. "Otologic Research and its Benefit to the Deafened," *Volta Review*, October, 1929. P. 558.
[2] L. M. Terman and J. C. Almack. *The Hygiene of the School Child.* Houghton, Mifflin, Boston, 1929. P. 220.
[3] *The Hard-of-Hearing Child. School Health Studies No. 13*, Department of the Interior, Bureau of Education, Washington, 1927. P. 4.
[4] L. M. Terman and J. C. Almack. Op. cit. p. 223.
[5] *Supra*, p. 224.

TABLE I*

	485 Hard-of-Hearing Children
Number up to grade	186
Number repeated one year	121
Number repeated two years	86
Number repeated three years	61
Number repeated four years	20
Number repeated five years	9
Number repeated six years	1

a more objective study similar results were obtained, as shown in Table I. Unfortunately, the studies have apparently not been extended above the level of elementary school children. Neither has there yet appeared any information regarding the standardization of the 4 — A Audiometer for students on the college level. It would appear that "a loss of six sensation units (6 SU) is significant in the higher grades, but in the lower grades the limit would be about 9 SU."[7]

Two related problems suggest themselves from a study of the meager literature yet available. In the first place, what is the average score made by college students? Secondly, when the average score on the 4 — A Audiometer is found for college students, do the scholastic attainments of those with hearing below normal show any marked deficiencies?

To secure an answer to the first question, the auditory acuities of 641 college students were measured on the 4 — A Audiometer built by the Western Electric Company. The regulation procedure was carefully followed in giving the tests, which were included as a part of the general physical examinations given to all students by the college physician and the professor of physiology. Auditory acuities are measured by this apparatus as the point at which there is a failure to hear and to write down the three digits. The distribution of acuities is effected by the twelve degrees of clearness with which the digits are to be heard as the record is played. The distribution of acuities for this group of college students is shown in Table II. Since the hearing loss as measured in sensory units is not further divisible, the exact average score would be a theoretical abstraction merely, and the inspection of the data for an average would be as nearly correct as the apparatus has as yet been planned to give. It will appear in the table that the average hearing loss is zero sensation units, with the inspection mode at the keenest auditory acuity the device indicates. The table indicates that there is no appreciable difference between the acuity of the right ear and that of the left. The slight discrepancy may be accounted for by the fact that only 641 cases were available for this study.

It appears that the increase in acuity is great as the tentative standard for the higher grades is compared with the data above. Perhaps the difference

*Adapted from data, source not given, in *The Hard-of-Hearing Child, loc. cit.*, p. 12.
[7]*Op. cit.*, p. 6.

TABLE II

THE AUDITORY ACUITIES OF COLLEGE STUDENTS MEASURED BY THE 4—A AUDIOMETER

Right Ear		*Left Ear*	
Hearing Loss	*F*	*Hearing Loss*	*F*
30	5	30	3
27	0	27	1
24	1	24	2
21	5	21	0
18	8	18	4
15	5	15	12
12	28	12	44
9	55	9	88
6	136	6	98
3	131	3	93
0	112	0	147
—3	155	—3	149

is to be explained in terms of the maturation of the ossicles and the ligaments of the middle ear. The marked increase in ability to record the digits may, on the other hand, be wholly psychological. Whether either view, or a combination of the two theories, be the answer to the question, this study makes

TABLE III*

SEMESTER AVERAGES OF 300 COLLEGE STUDENTS AND THEIR HEARING LOSSES FOR EACH EAR AS MEASURED ON THE 4—A AUDIOMETER

SEMESTER AVERAGE	HEARING LOSSES IN SENSORY UNITS												Totals
	30	27	24	21	18	15	12	9	6	3	0	—3	
90-94	0	0	0	0	0	0	0	0	3	5	3	3	14
85-89	1	0	0	1	0	0	3	8	9	10	16	12	60
80-84	0	0	0	1	2	2	8	19	20	19	19	30	120
75-79	0	0	0	0	1	1	5	20	24	28	26	39	144
70-74	2	2	1	0	4	3	4	13	18	22	23	24	116
65-69	0	0	0	0	0	2	4	9	17	8	16	18	74
60-64	0	0	0	0	0	0	5	8	8	2	9	8	40
55-59	1	0	0	0	0	1	2	1	6	2	1	2	16
50-54	2	0	0	0	0	0	0	0	1	0	4	3	10
45-49	0	0	1	0	0	0	0	0	0	0	1	2	4
40-44	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	1	0	0	0	1	0	2
Totals	6	2	2	2	7	9	32	78	106	96	119	143	600

*NOTE: Three hundred cases were chosen for the sake of convenience from a total of three hundred forty-seven. Tables IV and V are based upon the entire number of cases available for this study.

no attempt to answer. The first problem was to standardize the audiometer test, at least tentatively, for use with college students, the principal interest being to secure a quantitative basis for finding out whether or not auditory disabilities militate against success in college studies. The problem does not take cognizance of the operation of a selective factor which may have eliminated those students with low auditory acuities. It does, however, take into account the auditory acuities only of an entire freshman class in a college.

To obtain an answer to the second question, do hearing disabilities and low marks in college appear together? the semester averages for three hundred students in the above mentioned group were tabulated, together with their hearing losses. These data appear in Table III. It will be noted in this table that of the seven students whose semester averages were above ninety per cent the hearing losses for both ears of each student ranged from 6 to — 3, with the modal frequency at 3. Likewise, for the one student whose average was between thirty-five and thirty-nine per cent, one ear had the low acuity of 12, but the other ear had normal acuity for the college group. In the group of seventy-seven students who made the average college grade of between seventy-five and seventy-nine per cent, it appears that the modal frequency for auditory acuity lies at — 3, which is the most acute hearing which the 4 — A Audiometer registers. In this interval there is an evident tendency for the acuities to cluster at the end of the scale denoting good acuity. In the interval from seventy per cent to seventy-five per cent there appears to be the widest scattering of acuities. Of the fifty-eight students, or one hundred sixteen ears measured at this level, every hearing loss except twenty-one was found. In general, it may be said that there is about the same tendency in each grade-interval for the acuities to cluster about the sensory unit that indicates a low hearing loss.

In order to make a further study of a more limited number of students, the twenty who made the highest semester averages were selected for comparison with the twenty who made the lowest semester averages. These data appear in Tables IV and V. In Table IV the data for the highest group are shown. Letters are used to designate the students in this group. Under the heading, "Hearing Losses in Sensory Units," the auditory acuities are given. In Table V similar data on the twenty poor students are given, these student being designated by double letters. Here the differences in hearing acuities appear more clearly. Table IV shows that none of the highest twenty students had a hearing loss of over twelve sensory units, only one, in fact, having a loss at nine. The one student who had a hearing loss of nine sensory units in one ear had a good acuity in the other. The acuities for each ear are shown under the appropriate heading and opposite the designation of the student

TABLE IV

THE AUDITORY ACUITIES OF THE TWENTY STUDENTS MAKING THE HIGHEST SEMESTER AVERAGES

Semester Average	Hearing Losses in Sensory Units												Designation of Student
	30	27	24	21	18	15	12	9	6	3	0	−3	
90-94									//				A
									/				B
									/		/		C
										/		/	D
										/	/		E
										/	/		F
90-94												//	G
85-89								/			/		H
									/	/			I
										//			J
										/	/		K
											//		L
												//	M
											/	/	N
												//	O
										/		/	P
										/		/	Q
											//		R
											//		S
85-89										/		/	T

concerned. The table indicates that this first group tended to have keen acuity in hearing.

Table V, which gives the results for the lowest twenty students in the entire group, displays a scattering of acuities for hearing. Students "FF," "MM," and "NN" were found to have low semester averages and also to have one ear very defective in acuity in each case. Twelve of the acuities in this low group were at a hearing loss of nine sensory units or above; whereas for the highest group there was but one. The inference that low acuity may be

TABLE V

THE AUDITORY ACUITIES OF THE TWENTY STUDENTS MAKING THE LOWEST SEMESTER AVERAGES

Semester Average	Hearing Losses in Sensory Units												Designation of Student
	30	27	24	21	18	15	12	9	6	3	0	−3	
60-64							/		/				AA
								//					BB
								/		/			CC
									/	/			DD
60-64											/	/	EE
55-59	/									/			FF
						/	/						GG
							/				/		HH
								/	/				II
												//	JJ
									/		/		KK
55-59										/		/	LL
50-54	/									/			MM
	/										/		NN
									/			/	OO
									/			/	PP
										/	/		QQ
50-54										/	/		RR
45-49												//	SS
40-44													
35-39								/			/		TT

prejudicial to college success is evident when the data in these two tables are compared by inspection.

Since by the very nature of the scores obtainable on the 4 — A Audiometer these data are discrete, it is not possible to work out the coefficient of correlation between the semester averages and the auditory acuities. The semester averages are, of course, capable of treatment as continuous data, but the auditory ratings are disparate. Inspection, however, would seem to warrant the conclusion that when a large number of cases are taken—as shown in

Table III—there is no evident relationship between either high or low acuity and college marks. The assumption is that those students with low acuities in hearing and with inability to do successful academic work dropped out of school before reaching the college level. Otherwise the disparity between these results and the findings in the elementary school surveys would be inexplicable. Another assumption is that students with low auditory acuity who do successful college work have either intentionally or incidentally acquired the art of lip reading. Evidence of a relation between good acuity and college marks is, however, more evident when the highest and the lowest twenty of the class are compared for hearing disabilities.

The effect of taking auditory acuities into account in seating a large class is a problem that might profitably be investigated. When groups are seated alphabetically the arrangement may be convenient for the instructor's roll, but such an assignment of seats is not sound from the point of view of school hygiene. Another problem that might be considered is the relation between the students' knowledge of their hearing acuities and their actual hearing losses objectively determined. Of this group many were not at all cognizant of marked hearing disabilities owing to impacted cerumen. As a first step in the objective determination of auditory acuities it would appear necessary to have a check upon this establishment of a norm for college students on the 4 — A Audiometer, there being as yet none available.

A YEAR'S WORK IN FOURTH GRADE READING

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Reading holds an enviable place in the elementary curriculum. It would be impossible to follow the discussions, arguments, suggested ways and means of treating the subject as set forth in every educational magazine of today and often noted in the purely literary ones without coming to this conclusion. In fact, it would be hard to escape the idea that reading is the important subject of the curriculum, at least so far as the elementary school is concerned. It is basic to satisfactory progress in every other subject, and as an indispensable tool must be dealt with.

We do not think now, as we did in the early history of the teaching of reading, that an intensive study of the subject should be begun in the first grade. But, rather, that a background of experience should be built up there, through an activity program which gradually integrates such activities, as will require for their complete enjoyment, a working knowledge of how to read. Thus, we see children of today are not forced as soon as they enter school into the highly technical art of learning to read. They are given first such experiences as will contribute toward an easy approach to the subject and then are led to a realization of a need for reading out of which grows the desire to master this tool. Not until the child, himself, expresses the desire to learn to read does modern education attempt to teach him. This procedure possibly requires more time and naturally contemplates a lesser degree of efficiency in the subject in the early grades. However, in the right environment experimental practice has shown that the majority of children by the end of the third grade are able to read intelligently and enter the fourth grade ready to begin the intensive study of reading which has been delayed until this time. I say the majority of children by the end of the third grade have learned to read. We are all acquainted with the exceptional children in every classroom who do not learn to read when they are supposed to and who fail to react favorably to the usual methods applied.

At the beginning of the fourth year the teacher should take stock. First, of the children themselves, their interests in reading and their attainments thus far. Second, of the goals toward which their training during the next three years is to be directed. Third, of the materials available for promoting progress along all lines leading eventually to the desired ends.

To discover the interests in reading that children have on entering the fourth grade is a problem requiring ingenuity on the part of the teacher. There is no standard test by which such growth may be measured, but this

information may be gained through friendly conversations with the children sometimes individually—often in groups when they talk freely of their book friends and how they came to know them.

The actual attainments of the individual members of the group can be obtained much more accurately. At the present time there are numerous scientific tests on the market, all designed to point out certain strengths and weaknesses of children in reading and to these the fourth grade teacher turns for help in determining the actual condition of her class. It is necessary to select not only one test but a battery of tests, the results of which when analyzed will give a true picture of conditions as they exist. There are many combinations of tests that may be arranged. I have used, with very satisfactory results, the Kansas City Silent Reading Test to determine speed and comprehension; the Gray Oral for word difficulties; and Gates Diagnostic for further analysis. The results of the tests almost invariably divide the class, regardless of how good or how poor it is, into four groups: namely, those children who read rapidly and are also exceptional in comprehension; those who read slowly but comprehend what they read; those who read rapidly and do not comprehend; and, finally, those who neither read rapidly nor comprehend what they read. The degree to which the four groups described are good or poor depends upon the general level of attainment of the class as a whole. (Since I am teaching fourth grade now, I shall draw freely on my own experiences.) In my fourth grade room, for example, last fall I found upon analyzing the results of a group of tests given early in September the situation was as follows: Ten children read rapidly and also understood what they read; five read rapidly but were very vague in answering questions based on the selection; four were never able to finish the assignment, but could answer correctly all questions on the part of the selection they were able to cover in the time given; five read at a very slow rate and were unable to grasp the thought. Oral reading confirmed the silent tests. Clearly, the year's work in this class, to be effective, must be definitely planned and adapted to meet outstanding needs. And these conditions are simply a typical example of what may be expected in any class varying merely in degree.

An examination of the attainments set up by modern investigation and already rather firmly established as desirable goals to be reached at least by the end of the sixth grade reveals two types of accomplishment. First, at the end of this six-year period our children should have acquired wide and permanent interests in reading. Second, they should have become efficient in the use of a number of specialized skills such as reading rapidly; comprehending fully; organizing and using information gained; interpreting the printed page accurately and pleasingly to others.

With a definite knowledge of the status of her pupils and a clear understan-

ing of the goals toward which she is to direct their training, the teacher is now ready to select materials and apply teaching techniques which seem most favorable to the ends in view.

A working program for any grade must provide means by which a foundation may be laid for wide and permanent interests in reading. It must also provide means whereby certain definite skills will be developed.

In the fourth grade, as in possibly every other grade, the best approach to the problem of building up wide and permanent interests in reading is through a social atmosphere in the classroom. The teacher who can tell stories has the advantage of being able to get a quicker response from the children, but the same object may be gained through reading interesting stories to them and by encouraging the children, themselves, to tell stories—gradually leading them to tell stories they have read. There must be no lack of attractive, well-selected material to foster this growing interest in reading. One corner of the room should be set aside as a library and made inviting with tables and low comfortable chairs, pictures, and many books covering a wide range of interests. Beautiful copies of children's favorites, well illustrated, of course, make a stronger appeal and, if possible, at least a few of these should be supplied. Many children have good libraries at home and are glad to bring their books to school. These must be carefully censored for there is a danger of undesirable books being brought in. But, the presence of a library in a room cannot accomplish much unless a regular time is provided in the program for independent reading. In my own schedule I have set aside thirty minutes each day for individual reading of story books. We keep in the room a large chart on which each child "signs up" for the book he wants to read. The name of the book, the author, and the date are recorded at the time the book is begun. When it is finished this date is also added and the number of pages in the book. The child then fills out and files a card on which he has written the name of the book, the author, time required to read the book, number of pages, three questions about the story to arouse the interest and curiosity of others, and some interesting quotation or fact found in the story. Before selecting another book he talks privately with the teacher about the one just finished or makes a report to the class. In this way a tendency to skim is checked.

During the library period each day the teacher talks to different children about their books, hears them read snatches aloud, superintends the making of cards, helps select new books, and does many other similar things which help to keep in the group a happy working atmosphere. An examination of the file on the twentieth of February showed that since September my fourth grade had read a total of 113 books numbering 21,554 pages. Some members of the class had read many more books than others, the range being from 1 to 10 books or from 202 to 2,818 pages. All of these books are standards for

children of this age and include such titles as: "Little Men," "Sarah Crewe," "The Road to Oz," "Stories of Brave Dogs," "The Belgian Twins," "The Puritan Twins," "Pioneers and Patriots of America," "Doctor Doolittle," "The Little Lame Prince," "Pepper and Salt," "Alice's Adventures in Wonderland," "Heidi," "Beautiful Joe," and many others.

To stimulate wide interests in reading a number of informational books are provided in the library and activities which will demand their use are encouraged in the room. For example, in my own fourth grade there is a bird club which meets weekly. All of the children are members, and they set up for themselves such problems as finding and identifying nests; learning the characteristics and habits of one bird each week; keeping a record of when each bird is first seen in this locality in the spring; reporting to the class actual observations they have made.

We have a garden in which we plant such vegetables as we may decide, after careful investigation and study, will bring us reasonable profit. When and how to plant, cultivate, and market are other problems requiring careful reading.

We cannot write and dramatize the thrilling scenes from our pioneer history stories without much search in books for descriptions of characters, scenes, and costumes.

Making a world products map on which we trace to their sources the foods we eat involves much interesting material on people of all countries and how they live.

Some other sources rich in opportunities to build up wide and permanent interests in reading are: trips to the public library, every child becoming a member; visiting the book stores; making lists for parents to use as guides in buying books for their children; encouraging the reading of suitable magazines; and providing a bulletin board for current happenings that attract the attention of different children in the class. These and many similar activities keep the enthusiasm and interest at a high pitch and at the same time furnish the stimulus for diversified reading.

Let us turn, now, to the more technical phase of teaching reading, promoting the growth of desirable skills.

For the purpose of raising the general level of efficiency in reading in the class—that is promoting speed, comprehension, powers of organization—the McCall Crabb Test Lessons are the most effective helps yet on the market. They require only three minutes to give and check, the child doing all the checking himself. They are scientifically constructed and appeal to the interests of the children. They furnish standards for the grade whereby the child may judge whether or not he is progressing from day to day. Further-

more, they do help materially in building up the very skills that seem most worth while.

The making of graphs, indicating daily accomplishment in speed and comprehension, has a strong tendency to improve both. In my class we use for this type of reading a book made up of short informational selections. The Science Reader is especially well adapted to this work since the stories are rarely longer than three pages and contain definite information that is of greatest interest to children. Daily a careful check is made of speed and comprehension and each child keeps his own graph. Naturally, he is anxious to see the curve go "up" and strives from day to day to surpass his own record. There are many ways to provide for this type of training, and the lessons must never be allowed to become monotonous. Variety, with the game element prominent, is essential for maintaining interest.

An analysis of the tests shows, among the pupils of the class, four distinct phases of development in the use of the above skills. But it does not show why some children have been able to advance more rapidly than others or why some are deficient in one phase of reading while others fail in a different type. At this point an intelligence test will help. If the I.Q. is exceedingly low, time may be wasted in any attempt to teach reading. However, by adapting teaching methods to the individual, even children with an intelligence quotient as low as sixty-nine may be taught to read. The question of why a child is deficient in any phase of reading is one that must be solved before intelligent use of remedial measures can be made. Fortunately, in most cases the majority of the class have made normal progress. They should not be held back on account of deficiencies in other members, but should be encouraged to advance as rapidly as possible, perfecting to even a higher degree the abilities in reading they possess. Much of the time this group may be allowed to read alone, though guided in their reading by certain problems they are to solve; dramatizations they are to organize and present; or certain definite reports that are to be made to the class. They are under the direction of the teacher, yet do not consume time that should be devoted to less fortunate members of the class.

A further study of the remaining members of the class is necessary to determine the causes of their difficulties, and more specialized diagnostic tests such as the Gates Silent Reading and the Gray Oral will help to locate causes of troubles existing. All children who seem to suffer from the same or similar troubles should be grouped together and given the same treatment. For example, group two, or those children who read so fast they neglect the thought, must be made conscious of their inability and must have special lessons in which the main problem is thought getting. Those who read so slowly they can never complete the assignment must be watched for habits such as lip move-

ment, inner articulation, pointing at each word with the finger, eye movements, and other such faulty habits that slow up rate. They, too, should be made conscious of these habits and shown the advantages to be gained from overcoming them. They should be given daily drill with the main object of the lesson increased speed though never pushed beyond the point of perfect comprehension.

The fourth group, or those children who can neither read rapidly nor comprehend what they read, have, in the fourth grade, already reached the stage of "special cases." Individual diagnosis is necessary and then patient application of whatever remedial measures seem advisable. To guide us now in the treatment of these cases a large body of experimental literature is available, and for almost any type of disability a description of a similar case can be found. Whenever practicable it is advisable to have special teachers study and treat these cases. This will rarely be possible though, and the task falls to the regular teacher who must assume the responsibility and work faithfully to overcome the handicap. A real desire on the part of the child to learn to read well will do more toward accomplishing the goal than any incentive they can be offered; and, after all, without this desire it is doubtful whether any appreciable progress would ever be made.

In planning a year's work we must not forget to provide means whereby oral reading ability may be developed. Few people today attempt to read aloud because they realize their inability to do so well, yet certain types of writing, poetry for example, must be read aloud to be fully enjoyed and appreciated. To read aloud effectively, it is necessary to develop an entirely different set of skills, but the possession of these added abilities in oral reading add greatly to the joy one is able to derive from silent reading. In order to read aloud and give the full meaning of a selection to an audience, one must be able so thoroughly to enjoy the selection himself as to project his enthusiasm and interest into the minds of his hearers. He must be able to put himself in the place of the character about whom he is reading and become merely a medium through which the character himself speaks to the audience. He must be able, by the rhythmical swing of the voice, to transport his audience to the very scene of the story. He must be able by different intonations to give different shades of meaning as they arise in his reading. In my own experience dramatization has proven the most helpful means through which to establish all the skills needed for effective oral reading. In playing a story the child forgets himself, thereby becoming free from self-consciousness and timidity. He is a different person and as he relieves the scenes he is acting he enters with enthusiasm into being the character he represents. Unconsciously on his part, the voice is trained to respond to different meanings; the facial expressions are natural; the words come in the natural even flow so

essential to right performance. Of course this type of training in reading can only be pursued with reading matter that is dramatic in nature and has an appeal for the age and stage of development of the children in question.

And this brings us to the problem of materials needed for training in all types of reading and where to procure them. The teacher of reading must also be an untiring searcher after materials, for a room without books is a barren place, indeed, for the development of right reading habits.

Sometimes, especially in large schools, old readers may be found and arranged in sets of nine or ten. There are a number of little papers, "Current Events," "News Outline," "The Pathfinder"—all containing interesting informational material which may be secured to supplement the work type of reading. Government bulletins may be had for the asking and sometimes contain worth-while, interesting material. In planning her year's work the teacher should select certain readers for the children to buy, with a view to their use in developing attitudes toward reading and wide and permanent interests in it; others, she should select for use in developing necessary abilities and skills. Then from every source afforded by the community, she should build up the room library with wholesome suitable books. This, above everything else, is a necessity for largest and most satisfying development and growth.

EDITORIAL

PUBLISHERS HAVE FAITH

The publishing of books is not an activity that is scattered throughout the world. Of the fifty-four nations recently addressed by the President of the United States in the cause of International Peace, a decided majority are relatively bookless. A publisher might establish himself in such regions, but his prosperity would be analogous to that of a manufacturer who tried to sell refrigerators to the Eskimos. The use of books, and consequently the business of publishing, is concentrated (though not confined) in four great nations of the earth—the United States, England, France, and Germany.

Within recent months American publishers have rubbed their eyes and wondered whether some Aladdin's trick had not placed their business in Kamchatka. People neither eat nor wear books, hence when there seems to be only enough for the body the mind may go hungry. The impoverishment may be either actual or psychological, but the result is the same. The book business has had—or is having—a record "low." *Yet publishers still have faith!*

Publishers have faith in American authors. Stories they have told in the past—brave, dramatic, scholarly— have interested and instructed the American public. Editors of dignity still encourage writers of quality in the belief that culture is not dying in the land.

The faith of publishers should be a challenge to enlightened America. Unless educated citizens are resigned to a "Dark Age" of culture in our land, they should not forsake books. First, the use of textbooks in the schools should not be hysterically curtailed; examples of large classes taught with but one book in the teacher's hands, or of students supplied with arithmetics and grammars having backs off and the first and last twenty pages gone, are all too frequent in grades both high and low. The effect on the children is harmful out of all proportion to the economy. Second, school libraries should bear only their proportion of budgetary restriction. A literate generation is not to be produced on a starvation diet of books.

Publishers have faith that educated Americans desire culture, that American parents love their children too well and wisely to sanction long any shortage of quality or quantity in the books they use, that thoughtful Americans appreciate their resources in scholarship. In this faith they have carried on through many months of financial jeopardy. Their resources are not inexhaustible. In the alliance of schools and publishers for the cause of enlightenment there must be no default of either.

H. A. W.

THE NEW BOOKS ON OUR SHELVES

[The reviews, most of them signed, are by appropriate members of the Faculty of GEORGE PEABODY COLLEGE FOR TEACHERS. Our limited space necessitates concise notices—brief, pointed, thoughtful comments, without elaboration.]

Evaluation and Improvement of Teaching. By CHARLES W. KNUDSEN. Doubleday, Doran & Co.

In this publication the activity of teaching is studied closely for the various values of its component parts, and throughout the flood light of a fundamental educational philosophy plays upon these values. . . . It carries, perhaps, the most incisive statement now available of the function of supervision. It is a thoughtful book written in scholarly style and well supported by documentation and bibliography.

Arithmetic for Everyday Life. By ROBERT ANDERSON, Teachers College, West Chester, Pa., and SHELTON PHELPS, George Peabody College for Teachers. Silver, Burdett & Co.

A three-book series of arithmetic texts for the grades and junior high school. The series is well named. The body of the content is of "everyday" quality. The method is cleared of unnecessary trappings and lucidly presented. Arithmetic which is an "everyday" science is so presented, and not as something occult or alien.

Problems of the Teaching Personnel. By DENNIS H. COOKE. Longmans, Green & Co.

Earlier studies have been made of various phases of the teaching personnel, but this is the first attempt to survey critically the field in its entirety. It can be used not only by every alert administrator as a handbook of up-to-the-minute data of use in solving the pressing problems of the staff, but also by his teachers in bringing into sharper light their own status. The book's bibliography is unusually adequate, and its style is clear and convincing.

Intelligence—Its Manifestations and Measurement. By PAUL L. BOYNTON, 1933. D. Appleton and Company. Pp. xi + 466.

This text embraces the field of intelligence testing and mental diagnosis. The material is divided into four sections, namely, the nature of intelligence; intelligence manifestations, their causes and control; the measurement of intelligence; and the applications of intelligence measurements. The book is scientific in nature, but nontechnical in language. The beginning student in educational psychology should be able to grasp this material readily. It is peculiarly adapted to classroom needs and should find a place as a textbook in all courses wherein intelligence constitutes the major topic. D. C.

Significant Contemporary Stories. Edited by EDITH R. MIRRIELEES. Garden City, N. Y.: Doubleday, Doran and Company, 1929. Pp. 376.

An excellent and well-printed anthology. Each story is outstanding. B. R.

Songs for the School Year for Junior and Senior High Schools. Compiled by GEORGE S. DARE. New York: A. S. Barnes and Company, 1931. Pp. xvi + 191.

A well-indexed book containing most of the old favorites—choruses, hymns ,and school songs, along with some of the less familiar, but deserving material. The arrangements are good without being elaborate. J. V.

The Psychology of School Music Teaching. By JAMES L. MURSELL AND MABELLE GLENN. New York: Silver, Burdett and Company, 1931. Pp. v + 378.

An excellent piece of work by a psychologist who knows music. The work is practical and is based upon a thorough understanding of teaching problems as well as of psychology and music. The book is particularly suitable for use as a college text. D. R. G.

The Courts and the Public Schools. By NEWTON EDWARDS. Chicago: The University of Chicago Press, 1933. Pp. xvi + 591.

This is a notable piece of work. It should find a place in the professional library of every superintendent of schools.

Two outstanding features of this book should be mentioned, namely, the simplified language in which the court decisions are given and the thoroughness of the chapters on the legal status of teachers. D. H. C.

A Gestalt Completion Test. By Roy F. Street. New York City: Bureau of Publications, Teachers College, Columbia University, 1931. Pp. iii + 65.

This is a doctoral dissertation on the production, standardization, and analysis of a picture completion test of thirteen items. The author, contrary to Spearman's results, finds evidence of a "visual perception factor." This conclusion (on the basis of the data presented) must be regarded as highly problematic. J. P.

College and Reference Library Yearbook. American Library Association, Chicago: American Library Association, 1931.

Articles are included on progress, ideals and standards in liberal arts college, teachers college and reference libraries; Mr. W. W. Bishop, librarian of the University of Michigan, reports on the Carnegie Corporation's recent selection of certain colleges as recipients of grants for the purchase of books; some selected library statistics are given; and the librarians of the University of California and the University of Denver supply articles on questions surveyed in their respective libraries. The concluding article, by Mr. Henry, the chairman of the editorial committee, who is librarian of the University of Cincinnati, treats of fundamentals in planning a library building, with special emphasis on materials. The article on teachers college libraries, by Mr. Baber, librarian of the State Teachers College at Emporia, Kansas, tells a depressing story which should be read by every teachers college administrator in America. J. E. T.

Public School Finance. By Homer P. Rainey. New York: The Century Co., 1929. Pp. xix + 385. (Century education series.)

This work on Public School Finance contains an introduction by Dean Charles E. Chadsey of Illinois.

The book is divided into 13 chapters. There is rather a large number of interesting tables and charts.

The book seeks to answer the question, "Are we facing a crisis in financing our public schools?" and endeavors to point out the solution through a sound program of proper control.

The author fails to advance anything which is new, but bases his material upon other works in this field plus an account of a financial survey of ten township high schools in Illinois. A considerable section of the book is given to a discussion of the problem from a standpoint of the responsibility of the state. For the school administrator who has had limited training in the field it offers only a partial picture of the problem. Some phases are omitted, others are only approached.

The bibliography at the close of the chapters is well selected, but not complete. W. D. C.

Beyond the School. By Frank A. Rexford, Charles M. Smith, Sarah Lansuburg Sellin, and Paul F. Frabbito. New York: Henry Holt and Company, 1933. Pp. xx + 409.

A wealth of information on guidance. It gives much information on industry, women in industry, unemployment, labor organizations, choosing your life's work and preparing for it. J. R.

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The Administration of Public High Schools Through Their Personnel. By GEORGE A. RICE, CLINTON C. CONRAD, PAUL FLEMING. New York: The Macmillan Company, 1933. Pp. x + 723.

This book includes a great deal of material that should be helpful to the high school administrator. One feels that it hardly realizes the ambitious purpose of the authors to "examine these responsibilities (of administrative officers), to analyze the principles upon which good organization is based and set forth sound practice in administration." The inclusion of special treatment of smaller high schools in Chaper IV makes the book more useful even though the presentation in this chapter assumes a style out of keeping with the rest of the book. D. S. C.

Everyday Problems in Classroom Management. By EDWIN J. BROWN. New York: Houghton Mifflin Company, 1933. Pp. xv + 306.

This book is a radical departure from the earlier texts in Classroom Management. The most significant departure consists of the case and problem methods of presenting the data. The books contains 170 problems, illustrating every important principle of classroom management.

A casual review of the book indicates that it is deserving of a try-out as a text. The reviewer plans to make such use of the book at an early date. D. H. C.

Modern Solid Geometry. By JOHN R. CLARK and ARTHUR S. OTIS. New York: World Book Company, 1932. Pp. xx + 171.

A good text. The authors use the introduction to make a rather detailed attempt to make the pupil perspective conscious. This should be of real value for later work with the three dimensional figures. F. L. W.

Junior Mathematics for Today—Book One. By WILLIAM BETZ. New York: Ginn and Company, 1933. Pp. x + 406.

An excellent text. It is well written and the subject matter is presented in attractive and interesting form. An unusual number of fine illustrations with an abundance of problems which are closely related to actual life situations. F. L. W.

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